IN THE CLAIMS

Please amend the claims as follows:

Claims 1-58 (Canceled).

Claim 59 (Currently Amended): A biometric pattern detecting device comprising:

a light source unit configured to emit a ~~near infra-red~~ near-infrared light to be reflected or scattered in a part of body;

a detecting unit configured to detect an image of the ~~near infra-red~~ near-infrared light reflected or scattered in the part of body by the light source unit and generate a biometric pattern using the detected image; and

a shield which prevents the near-infrared light reflected or scattered in a shallow portion of the part of the body from reaching the detecting unit ~~by limiting an aperture of an imaging optical system of the detecting unit~~,

wherein the light source unit is set in a horizontal direction or a horizontally slanted direction with respect to the part of body and the detecting unit is set in a vertical direction or a vertical slanted direction with respect to the part of body, so that the light source unit and the detecting unit are non-coaxial with one another.

Claim 60 (Currently Amended): The biometric pattern detecting device according to Claim 59, wherein the detecting unit detects the image of the ~~near infra-red~~ near-infrared light reflected or scattered in the body on the different position from the position of the light emitted by the light source unit.

Claim 61 (Previously Presented): The biometric pattern detecting device according to Claim 59, wherein the part of body is a finger or a hand.

Claim 62 (Previously Presented): The biometric pattern detecting device according to Claim 59, wherein the biometric pattern is a pattern of blood vessels.

Claim 63 (Canceled).

Claim 64 (Previously Presented): The biometric pattern detecting device according to Claim 59, further comprising:

a guide unit set between the detecting unit and the part of body.

Claim 65 (Currently Amended): A personal authentication device comprising:

a light source unit configured to emit a ~~near infra-red~~ near-infrared light to be reflected or scattered in a part of body;

a detecting unit configured to detect an image of the ~~near infra-red~~ near-infrared light reflected or scattered in the part of body by the light source unit and for generating a biometric pattern using the detected image;

a shield which prevents ~~near infra-red~~ near-infrared light scattered in a shallow portion of the body from reaching the detecting unit ~~by limiting an aperture of an imaging optical system of the detecting unit~~,

a storage unit configured to store a biometric pattern; and

an authentication unit configured to perform an authentication process by comparing the biometric pattern generated by the detecting unit with the biometric pattern stored by the storage unit,

wherein the light source unit is set in a horizontal direction or a horizontally slanted direction with respect to the part of body and the detecting unit is set in a vertical direction or a vertical slanted direction with respect to the part of body, so that the light source unit and the detecting unit are non-coaxial with one another.

Claim 66 (Currently Amended): The personal authentication device according to Claim 65, wherein the detecting unit detects the image of the ~~near-infra-red~~ near-infrared light reflected or scattered in the body on the different position from the position of the light emitted by the light source unit.

Claim 67 (Previously Presented): The personal authentication device according to Claim 65, wherein the part of body is a finger or a hand.

Claim 68 (Previously Presented): The personal authentication device according to Claim 65, wherein the biometric pattern is a pattern of blood vessels.

Claim 69 (Canceled).

Claim 70 (Previously Presented): The personal authentication device according to Claim 65, further comprising:

a guide unit is set between the detecting unit and the part of body.

Claim 71 (Currently Amended): A method of performing personal authentication, comprising:

emitting from a light source a ~~near infra-red~~ near-infrared light to be reflected or scattered in a part of body;

detecting with a detector an image of the ~~near infra-red~~ near-infrared light reflected or scattered in the part of body;

preventing, using a shield, ~~near infra-red~~ near-infrared light scattered in a shallow portion of the body from reaching the detecting unit ~~by limiting an aperture of an imaging optical system of the detector~~;

generating a biometric pattern using the detected image; and

performing an authentication process by comparing the generated biometric pattern with a stored biometric pattern,

wherein the emitted light is emitted from a horizontal direction or a horizontally slanted direction with respect to the part of body and the image of the light reflected is detected in a vertical direction or a vertical slanted direction with respect to the part of body, so that the emitted light and the detected image are non-coaxial with one another.

Claim 72 (Previously Presented): The method of Claim 71, wherein the part of body is a finger or a hand.

Claim 73 (Previously Presented): The method of Claim 71 wherein the biometric pattern is a pattern of blood vessels.

Claim 74 (Canceled).

Claim 75 (New): A biometric pattern detecting device comprising:

a light source unit configured to emit an oscillating near-infrared light to be reflected or scattered in a part of body; and

a detecting unit configured to detect an image of the near-infrared light reflected or scattered in the part of body by the light source unit and generate a biometric pattern using the detected image by measuring a phase difference between two frequency components of the detected near-infrared light so as to measure a magnitude of birefringence of the light.

Claim 76 (New): The biometric pattern detecting device according to Claim 75, wherein the detecting unit detects the image of the near-infrared light reflected or scattered in the body on a different position from a position of the light emitted by the light source unit.

Claim 77 (New): The biometric pattern detecting device according to Claim 75, wherein the part of body is a finger or a hand.

Claim 78 (New): The biometric pattern detecting device according to Claim 75, wherein the biometric pattern is a pattern of blood vessels.

Claim 79 (New): The biometric pattern detecting device according to Claim 75, further comprising:

a guide unit set between the detecting unit and the part of body.

Claim 80 (New): A personal authentication device comprising:

a light source unit configured to emit a near-infrared light to be reflected or scattered in a part of body;

a detecting unit configured to detect an image of the near-infrared light reflected or scattered in the part of body by the light source unit and for generating a biometric pattern using the detected image by measuring a phase difference between two frequency components of the detected near-infrared light so as to measure a magnitude of birefringence of the light;

a storage unit configured to store a biometric pattern; and

an authentication unit configured to perform an authentication process by comparing the biometric pattern generated by the detecting unit with the biometric pattern stored by the storage unit.

Claim 81 (New): The personal authentication device according to Claim 80, wherein the detecting unit detects the image of the near-infrared light reflected or scattered in the body on a different position from a position of the light emitted by the light source unit.

Claim 82 (New): The personal authentication device according to Claim 80, wherein the part of body is a finger or a hand.

Claim 83 (New): The personal authentication device according to Claim 80, wherein the biometric pattern is a pattern of blood vessels.

Claim 84 (New): The personal authentication device according to Claim 80, further comprising:

a guide unit is set between the detecting unit and the part of body.

Claim 85 (New): A method of performing personal authentication, comprising:

emitting from a light source a near-infrared light to be reflected or scattered in a part of body;

detecting with a detector an image of the near-infrared light reflected or scattered in the part of body by measuring a phase difference between two frequency components of the detected near-infrared light so as to measure a magnitude of birefringence of the light;

generating a biometric pattern using the detected image; and

performing an authentication process by comparing the generated biometric pattern with a stored biometric pattern.

Claim 86 (New): The method of Claim 85, wherein the part of body is a finger or a hand.

Claim 87 (New): The method of Claim 85 wherein the biometric pattern is a pattern of blood vessels.

Claim 88 (New): The biometric pattern detecting device according to Claim 59, wherein

the near-infrared light passes through a surface of the part of the body and is reflected or scattered by a dermal portion, and

the shield prevents the near-infrared light reflected or scattered in an epidermal layer, as the near-infrared light passes through the surface of the part of the body, from reaching the detecting unit.